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**REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed July 15, 2005. In the Office Action, the Examiner notes that claims 1-9 and 21-28 are pending and rejected.

In view of the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of these claims are now in allowable form.

It is to be understood that Applicants do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant response.

**Rejection under 35 U.S.C. §103****Claims 1-2, 4-6, 8-9, 21-25 and 27-28**

The Examiner has rejected claims 1-2, 4-6, 8-9, 21-25 and 27-28 under 35 U.S.C. §103(a) as being unpatentable over Shoff et al. (U.S. Patent No. 6,240,555, "Shoff") in view of Boyce et al. (U.S. Patent No. 5,684,539, "Boyce"). Applicants respectfully traverse the rejection.

In general, Shoff teaches an interactive entertainment system for presenting supplemental interactive content. As taught in Shoff, the existence of a supplemental content data stream over a dedicated channel indicates that a program being received on a selected channel is interactive. Shoff, however, fails to teach or suggest an encoder (or an associated method) adapted for transmitting a single I-frame a plurality of times in at least one of the plurality of downstream channels. In fact, in the Office Action, the Examiner acknowledges that Shoff "is silent in teaching the transmitting of a single I-frame a plurality of times," as taught in Applicants' invention of at least claim 1. As such, the Examiner cites Boyce for teaching Applicants' limitation of "an encoder in

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the network headend adapted to transmit a single I-frame a plurality of times in at least one of a plurality of downstream channels." Boyce, however, fails to bridge the substantial gap between Shoff and Applicants' invention of at least claim 1.

In general, Boyce teaches a method and apparatus for processing encoded video data to reduce the amount of data used to represent a video image. In particular, Boyce teaches a method for processing digital video data to represent a video frame as a pair of field pictures. A first field of the pair of field pictures is selected to represent the video frame. A second field of the pair of field pictures is replaced with a field requiring very little data. (Boyce, Abstract). As taught in Boyce, the first field of the pair of field pictures is retained while the second field of the pair of field pictures is replaced with a field that is represented using less data than the field which it is replacing. (Boyce, Col. 6, Lines 32-34).

Boyce, however, fails to teach or suggest each and every limitation of Applicants' invention of at least claim 1. Namely, Boyce fails to teach or suggest at least the limitation of "an encoder in the network headend adapted to transmit a single I-frame a plurality of times in at least one of a plurality of downstream channels," as taught in Applicants' invention of at least claim 1. Specifically, Applicants' claim 1 positively recites:

A system for broadcasting information over a television distribution network comprising:

- a) a network headend for accessing information from one or more sources, and broadcasting said information;
  - b) a plurality of downstream channels interfaced to said headend for transmitting said information;
  - c) an encoder in the network headend adapted to transmit a single I-frame a plurality of times in at least one of the plurality of downstream channels;
- and
- (d) a plurality of terminal devices for receiving said downstream channels, each said terminal device including:
    - 1) a tuner for receiving and selecting said downstream channels; and
    - 2) a terminal processor for receiving channel selection and information requests from a user, and instructing said tuner to select one of said downstream channels, said terminal processor including programming for receiving an information request from a user, and in response thereto,

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instructing said tuner to select, via one-way hyperlinking, one of said downstream channels on which said requested information is being transmitted from said headend.  
(Emphasis added.)

By contrast, as described herein, Boyce teaches that encoded video data is processed to reduce the amount of data used to represent an MPEG-compliant video image. The first field of the pair of field pictures is selected to represent the video frame, and the second field of the pair of field pictures is replaced with a field requiring less data than the field which it replaces. In particular, Boyce specifically states that "in one embodiment, if a first field, i.e., an I-field and a second field, which could be either an I-field or a predictively coded ("P-") field of a field picture pair are received, the second field picture is replaced with a field picture, e.g., a P-field which requires very little data." (Boyce, Col. 6, Lines 38-42). In other words, as taught in Boyce, the first field is an I-field and the second field (which may be either an I-field or a P-field) is replaced with a transparent P-field requiring less data than the original I-field or P-field.

First, temporarily ignoring the replacement of the second field with a P-field, Boyce is still completely devoid of any teaching or suggestion that the I-field of the first field and the I-field of the second field are the same I-field. Rather, Boyce merely states that the first field includes an I-field and that the second field may include an I-field. As such, Boyce must be completely devoid of any teaching or suggestion that the video image represented by the pair of field pictures includes a plurality of the same I-field. As such, Boyce fails to teach or suggest repeating of a single I-frame a plurality of times prior to transmission of the video data, much less transmission of a single I-frame a plurality of times, as taught in Applicants' invention of at least claim 1.

Furthermore, Boyce teaches that the second field of the pair of field pictures is replaced with a transparent P-field. In particular, as described above, Boyce states that "the second field picture is replaced with a field picture, e.g., a P-field which requires very little data." (Boyce, Col. 6, Lines 38-42). As such, even if the first field is an I-field and the second field is an I-field (which may not even be the case), and, further, even if the I-field in the first field and the I-field in the second field are a single I-field (which

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Applicants maintain they are not), Boyce explicitly teaches that the I-field of the second field is removed and replaced with a P-field that may be adapted for reducing the amount of transmitted data. In other words, Boyce teaches that the second field of the pair of field pictures is always replaced with a transparent P-field prior to transmission of the video data. Since Boyce teaches transmission of an I-field in the first field and a P-field in the second field, Boyce fails to teach or suggest transmission of a plurality of I-fields.

As such, since Boyce teaches that the second field of the pair of field pictures is always replaced with a P-field, only one I-field, at most, may be transmitted in the Boyce system. In other words, a plurality of different I-fields cannot even be transmitted in the Boyce system. Moreover, since a plurality of different I-fields cannot be transmitted in the Boyce system, a plurality of I-fields where each of the I-fields in the plurality of I-fields is identical also cannot be transmitted in the Boyce system. As such, Boyce actually explicitly teaches away from transmitting any I-fields (even differing I-fields) a plurality of times. The transmission of a video image using an I-field and a transparent P-field, as taught in Boyce, is simply not transmission a single I-frame a plurality of times, as taught in Applicants' invention of at least claim 1. thus, Boyce is completely devoid of any teaching or suggestion of transmitting a single I-frame a plurality of times, as taught in Applicants' invention of at least claim 1.

As such, since Boyce fails to teach or suggest transmitting a single I-frame a plurality of times, Boyce must be completely devoid of any teaching or suggestion of "an encoder in the network headend adapted to transmit a single I-frame a plurality of times in at least one of the plurality of downstream channels," as taught in Applicants' invention of at least claim 1. As such, Boyce fails to teach or suggest Applicants' invention as a whole. Therefore, since both Shoff and Boyce fails to teach or suggest at least the limitation of "an encoder in the network headend adapted to transmit a single I-frame a plurality of times in at least one of the plurality of downstream channels," Shoff and Boyce must fail to teach or suggest Applicants' invention as a whole.

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The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather, the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 U.S.P.Q. 1021, 1024 (Fed. Cir. 1984) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 U.S.P.Q. 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). Shoff and Boyce, either alone or in combination, fail to teach or suggest Applicants' invention as a whole.

As such, Applicants submit that independent claim 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, independent claim 21 recites features substantially similar to the features of claim 1. Namely, claim 21 recites the limitation "a portion of said information being a single I-frame encoded and transmitted a plurality of times in a single downstream channel." As such, for at least the same reasons described with respect to claim 1, Applicants submit that independent claim 21 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

As such, Applicants submit that independent claims 1 and 21 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore claims 2, 4-6, 8-9, 22-25 and 27-28 depend, either directly or indirectly, from independent claims 1 and 21 and recite additional features therefor. Accordingly, for at least the same reasons as discussed above with respect to independent claims 1 and 21, dependent claims 2, 4-6, 8-9, 22-25 and 27-28 also are non-obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the rejection be withdrawn.

**Claims 3, 7 and 26**

The Examiner has rejected claims 3, 7 and 26 under 35 U.S.C. §103(a) as being unpatentable over Shoff in view of Boyce in further view of Eyer et al. (U.S. Patent No. 5,982,445, hereinafter "Eyer"). Applicants respectfully traverse the rejection.

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For at least the reasons discussed above with respect to the Examiner's rejection of claims 1 and 21, Applicants submit that independent claims 1 and 21 are non-obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable over Shoff in view of Boyce. Claims 3, 7 and 26 depend directly or indirectly from independent claims 1 and 21, and therefore, for at least the same reasons, these dependent claims are non-obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable over Shoff in view of Boyce. Furthermore, Eyer fails to bridge the substantial gap between Shoff and Boyce and Applicants' invention.

In general, Eyer teaches a hypertext markup language (HTML) protocol for providing textual and graphical displays on a television screen. The on-screen display devices enable users to invoke hyperlinks to different pages of HTML-coded data and control television functions and programming options, such as purchasing pay-per-view programming. (Eyer, Abstract). Furthermore, Eyer discloses use of on-screen display options for controlling television display options such as aspect ratio, brightness, and picture-in-picture, as well as associated appliance functions.

Eyer, however, fails to teach or suggest Applicants' invention of at least claims 1 and 21, as a whole. Namely, Eyer is completely devoid of any teaching or suggest of at least the limitation of "an encoder in the network headend adapted to transmit a single I-frame a plurality of times in at least one of the plurality of downstream channels," as taught in Applicants' invention of at least claim 1.

Rather, Eyer is primarily directed towards providing interactive textual and graphical displays on a television. Eyer is devoid of any teaching or suggestion of transmission of video frames, such as I-frames. In fact, Eyer is completely devoid of any teaching or suggestion of any encoding techniques whatsoever. The Examiner merely relies on Eyer for teaching a multiplexer adapted for operating in a head end for delivering an aggregate bandwidth of many channels to a user. As such, Eyer fails to teach or suggest each and every limitation of Applicants' invention of at least claims 1 and 21. Accordingly, Shoff, Boyce, and Eyer, either singly or in combination, fail to teach or suggest Applicants' invention as a whole.

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As such, Applicants submit that independent claims 1 and 21 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable over Shoff, Boyce and Eyer singly or in combination. Furthermore claims 3, 7 and 26 depend, either directly or indirectly, from independent claims 1 and 21 and recite additional features thereof. Accordingly, at least for the same reasons as discussed above with respect to independent claims 1 and 21, dependent claims 3, 7 and 26 also are non-obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the rejection be withdrawn.

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**CONCLUSION**

Thus, Applicants submit that none of the claims, presently in the application, is obvious under the provisions of 35 U.S.C. §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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